

[See Signature Page for Information on Counsel for Plaintiffs]

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

ACER, INC., ACER AMERICA
CORPORATION and GATEWAY, INC.,

Plaintiffs,

v.

TECHNOLOGY PROPERTIES LIMITED,
PATRIOT SCIENTIFIC CORPORATION,
and ALLIACENSE LIMITED,

Defendants.

Case No. 5:08-cv-00877 PSG

**PLAINTIFFS' CONSOLIDATED
RESPONSIVE SUPPLEMENTAL CLAIM
CONSTRUCTION BRIEF**

[RELATED CASES]

Date: November 30, 2012
Time: 10:00 a.m.
Place: Courtroom 5, 4th Floor
Judge: Paul Singh Grewal

HTC CORPORATION and HTC
AMERICA, INC.,

Plaintiffs,

v.

TECHNOLOGY PROPERTIES LIMITED,
PATRIOT SCIENTIFIC CORPORATION,
and ALLIACENSE LIMITED,

Defendants.

Case No. 5:08-cv-00882 PSG

BARCO N.V., a Belgian corporation,

Plaintiff,

v.

TECHNOLOGY PROPERTIES LIMITED,
PATRIOT SCIENTIFIC CORPORATION,
and ALLIACENSE LIMITED,

Defendants.

Case No. 5:08-cv-05398 PSG

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TABLE OF ABBREVIATIONS

'148 patent or '148	U.S. Patent No. 6,598,148, entitled "High Performance Microprocessor Having Variable Speed System Clock," issued July 22, 2003
'336 patent or '336	U.S. Patent No. 5,809,336, entitled "High Performance Microprocessor Having Variable Speed System Clock," issued September 15, 1998
'749 patent or '749	U.S. Patent No. 5,440,749, entitled "High Performance, Low Cost Microprocessor Architecture," issued August 8, 1995
'890 patent or '890	U.S. Patent No. 5,530,890, entitled "High Performance, Low Cost Microprocessor," issued June 25, 1996
Plaintiffs	Declaratory judgment plaintiffs Acer, Inc., Acer America Corporation, Barco, N.V., Gateway, Inc., HTC Corporation and HTC America, Inc.
Defendants or TPL	Declaratory judgment defendants Technology Properties Limited, Patriot Scientific Corporation and Alliacense Limited
<i>Acer</i> Action	<i>Acer, Inc., Acer America Corporation and Gateway, Inc. v. Technology Properties Limited, Patriot Scientific Corporation, and Alliacense Limited</i> , Civil Case No. 5:08-cv-00877 PSG
Chen Decl.	Declaration of Kyle D. Chen in Support of Plaintiffs' Opening Supplemental Claim Construction Brief (Dkt. No. 363 in <i>Acer</i> Action)
Talbot	U.S. Patent No. 4,689,581, entitled "Integrated Circuit Phase Locked Loop Timing Apparatus," issued August 25, 1987 to Gerald R. Talbot, Attached as Exhibit 9 to Chen Declaration (Dkt. No. 363-9 in <i>Acer</i> Action)

I. INTRODUCTION

Declaratory judgment plaintiffs Acer, HTC and Barco entities, as shown on the caption page (collectively “Plaintiffs”), respectfully and jointly submit this Consolidated Responsive Supplemental Claim Construction Brief as ordered by the Court.

II. THE CLAIMED “RING OSCILLATOR” MUST BE NON-CONTROLLABLE AND VARIABLE BASED ON ENVIRONMENTAL PARAMETERS.

For the sake of convenience, the parties’ competing constructions of “ring oscillator” are again set forth below:

Plaintiffs’ Construction	TPL’s Construction
An oscillator having a multiple, odd number of inversions arranged in a loop, wherein the oscillator is: (1) non-controllable; and (2) variable based on the temperature, voltage, and process parameters in the environment	An oscillator having a multiple, odd number of inversions arranged in a loop

Defendants’ Opening Supplemental Claim Construction Brief (*Acer* Action, Dkt. No. 357 (“TPL’s Op. Supp. Br.”)) fails to demonstrate how TPL’s proposed construction of “ring oscillator” avoids reading on the voltage-controlled oscillator in Talbot Figure 3 that has been indisputably disclaimed. Instead, TPL argues without citing any authority that Judge Ware’s First Claim Construction Order (*Acer* Action, Dkt. No. 336 (“Order”)) is improper because, in TPL’s view, whether Talbot discloses a “ring oscillator” “is not an appropriate subject for claim construction.” (TPL’s Op. Supp. Br. at 10.) The declaration of Dr. Oklobdzija submitted in support of TPL’s supplemental briefing does not even analyze Talbot Figure 3 and does not address either party’s proposed construction. (See “SUPPLEMENTAL [sic] DECLARATION OF DR. VOJIN OKLOBDZIJA,” *Acer* Action, Dkt. 357-4 (“Supp. Oklobdzija Decl.”).) Instead, Dr. Oklobdzija’s declaration analyzes a hypothetical circuit that even he admits is not Talbot and is not at issue, and applies a new definition of “ring oscillator” that is not supported by any intrinsic evidence. (Oklobdzija 10/12/12 Dep. at 609:4-12, 610:1-10 and Ex. 77, 406:11–407:14 (Supplemental Declaration of Kyle D. Chen filed herewith (“Chen Supp. Decl.”), Exs. 24 and 77).)

While Plaintiffs’ proposed construction is supported by the intrinsic record, TPL asserts new distinctions between Talbot Figure 3 and the claimed “ring oscillator” based on a distorted

1 explanation of a Schmitt-trigger, distinctions that are unsupported by either the '336 specification
 2 or the prosecution history. TPL's positions are contradicted by Talbot, contradicted by a textbook
 3 written by Dr. Oklobdzija himself, and contradicted by Exhibit A to Dr. Oklobdzija's
 4 supplemental declaration.

5 **A. Judge Ware Did Not Construe the Claimed "Ring Oscillator."**

6 TPL misrepresents Judge Ware's Order, suggesting that Judge Ware has already construed
 7 "ring oscillator" in the patents-in-suit. To the contrary, this supplemental briefing was ordered by
 8 Judge Ware to determine the proper construction of the claimed "ring oscillator." (*See* Order at
 9 16:14–15 ("Here, *before* arriving at a decision on the definition of the phrase "ring oscillator" in
 10 the context of the Talbot reference, the Court finds that it would benefit from further briefing.")
 11 (emphasis added).) Judge Ware sought supplemental declarations and briefing on "ring oscillator"
 12 because he understood the significance of Plaintiffs' proof that Talbot Figure 3 discloses three
 13 inverters arranged in a loop. The voltage-controlled oscillator in Talbot Figure 3 meets both TPL's
 14 proposed construction of "ring oscillator" as well as what Judge Ware finds one of ordinary skill
 15 would normally understand a "ring oscillator" to be without specialized meaning. (Order at
 16 13:20–22 and 16:1–6.)

17 TPL's explanation of the operation of the "ring oscillator" disclosed by Figure 18 of the
 18 '336 patent applies as well to the indisputably disclaimed voltage-controlled oscillator in Talbot
 19 Figure 3 because it too has an odd number of inverters. Because Talbot has three inverters
 20 arranged in a loop, the claimed "ring oscillator" requires a specialized meaning to avoid reading on
 21 the disclaimed voltage-controlled oscillator in Talbot Figure 3.

22 TPL asks this Court to simply ignore the patent owner's arguments made to the Examiner
 23 during an interview, even though TPL has never challenged the accuracy of the Examiner's
 24 interview summary. TPL fails to even address similar characterizations of the claimed ring
 25 oscillator during prosecution of the '336 patent to distinguish the Magar and Sheets references, set
 26 forth in detail in Plaintiffs' Opening Supplemental Claim Construction Brief (*Acer* Action, Dkt.
 27 No. 365 ("Plaintiffs' Op. Supp. Br.")). But these disclaimers cannot be ignored. They are as
 28

1 much a part of the prosecution history as the final '148 reexamination amendment that TPL
2 characterizes as the most important.

3 Further, the patent owner's argument in that '148 reexamination amendment is also a
4 disclaimer of voltage-controlled oscillators generally:

5 Further, **Talbot does not teach, disclose, or suggest the ring oscillator** recited in
6 claim 4. The examiner cited col.3, ll. 26-35, and oscillator circuit 12 shown in
7 FIG. 1 of Talbot as teaching the recited ring oscillator. **Talbot discusses a**
8 **voltage-controlled oscillator (VCO) 12, but does not teach or disclose a ring**
9 **oscillator.**

10 ('148 PH Remarks/Arguments at 11, 2/21/08 (Chen Decl., Ex. 3) (emphasis added).)

11 Plaintiffs' proposed construction properly holds TPL to all of its disclaimers, including the
12 final disclaimer of voltage-controlled oscillators. TPL's proposed construction must be rejected
13 because it fails to distinguish Talbot, is contrary to the prosecution history, and is contrary to
14 TPL's arguments to this Court that Talbot does not disclose a "ring oscillator."

15 **B. The Patent Owner's Arguments Recorded in Examiner's Interview Summary**
16 **Constitute a Clear Disavowal of Scope for the Claimed "Ring Oscillator."**

17 In both the prosecution history and the current briefing, TPL clearly disavows the voltage-
18 controlled oscillator in Talbot. For that reason alone, both TPL's proposed construction and the
19 ordinary meaning that a ring oscillator comprises nothing more than three "inversions" or
20 "inverters" arranged in a loop must be rejected. The reason is that Talbot discloses an oscillator
21 comprising three inverters arranged in a loop and also three inversions in a loop.

22 Plaintiffs' proposed construction simply includes in the "ring oscillator" the very distinction
23 argued by TPL to the Patent Office during the '148 patent's reexamination, as evidenced by the
24 Examiner's February 12, 2008 interview summary. ('148 PH 2/12/08 Interview Summary at 2
25 (Chen Decl., Ex. 2).) In arguing for patentability over Talbot, TPL failed to present any other
26 substantive distinction between the voltage-controlled oscillator in Talbot and the claimed "ring
27 oscillator," so it would be improper now to tell the public—including Plaintiffs—that "ring
28 oscillator" can be narrowed in some other way to avoid Talbot. Accordingly, new distinctions
based on Dr. Oklobdzija's declaration or deposition testimony must be rejected because those new
distinctions were not presented to the Examiner as part of the prosecution history, which not only

1 deprived the public of notice of these new distinctions but also deprived the Examiner of any
2 response to these proposed new distinctions.

3 TPL argues that black is white by denying that the Examiner's interview summary sets forth
4 a clear disavowal of claim scope. The best rebuttal is to repeat again the language of the summary:

5 Continuing, the patent owner further argued that the reference of Talbot does not
6 teach of a "ring oscillator." **The patent owner discussed features of a ring
7 oscillator, such as being non-controllable, and being variable based on the
8 environment. The patent owner argued that these features distinguish over
9 what Talbot teaches.** The examiner will reconsider the current rejection based on
10 a forthcoming response, which will include arguments similar to what was
11 discussed.

12 (*Id.* (emphasis added).)

13 The Examiner's interview summary is a proper basis for finding a disavowal of claim
14 scope. It expressly reflects what TPL, the patent owner, argued. The Federal Circuit has
15 repeatedly relied upon patent owners' arguments recorded in interview summaries to find that
16 patent owners disavowed claim scope to distinguish prior art. *See, e.g., Rheox, Inc. v. Entact, Inc.*,
17 276 F.3d 1319, 1322 (Fed. Cir. 2002) (disavowal found based on patent owner's arguments that
18 the Examiner recorded in interview summary); *see also Biovail Corp. Int'l v. Andrx Pharms., Inc.*,
19 239 F.3d 1297, 1302–04 (Fed. Cir. 2001) (same); *Trinity Indus. v. Road Sys.*, 121 F. Supp. 2d
20 1028, 1044 (E.D. Tex. 2000) ("It is proper to consider the interview summary in claim
21 construction as it is part of the prosecution history.") (citing *Athletic Alternatives, Inc. v. Prince
22 Mfg., Inc.*, 73 F.3d 1573, 1576 (Fed. Cir. 1996) (relying upon Examiner's interview summary of
23 patent owner's statements in claim construction)).

24 In its opening supplemental papers, TPL cites no legal authority in support of its argument
25 that the Examiner's summary cannot constitute a disavowal of claim scope. In its prior claim
26 construction papers, however, TPL argued that *Salazar v. Procter & Gamble Co.*, 414 F.3d 1342
27 (Fed. Cir. 2005), applies; but it does not. (*See* Defendants' Opening Claim Construction Brief at 5,
28 *Acer Action*, Dkt. No. 310.) *Salazar* held that "unilateral statements by an examiner" in a Notice
of Allowance did not give rise to a disavowal by the patent owner. The statements at issue here
were not "unilateral statements" by the Examiner, but arguments made by TPL. The fact that the

1 Examiner recorded TPL's statements does not change the fact that it was TPL, not the Examiner,
2 who made them.

3 TPL also previously misapplied *University of Pittsburgh v. Hedrick*, 573 F.3d 1290, 1297
4 (Fed. Cir. 2009), which refused to give weight to a "terse" and ambiguous interview summary that
5 was unclear concerning which features of the claimed invention, if any, were being distinguished.
6 (See Defendants' Opening Claim Construction Brief at 5, *Acer* Action, Dkt. No. 310.) In the
7 present case, however, the Examiner's interview summary could not be more clear: To distinguish
8 Talbot's voltage-controlled oscillator, the "patent owner" argued that "features" of the claimed
9 "ring oscillator" include "being non-controllable, and being variable based on the environment."
10 The accuracy of this record by the Examiner has never been challenged, and the disavowals clearly
11 identify the claim language and the features on which it is distinguished.

12 TPL boldly asks this Court to ignore the interview summary. (TPL's Op. Supp. Br. at 9:10–
13 12 ("[I]t is far more important to understand what occurred next.")). But that would be improper
14 because the Examiner and the public are entitled to rely on the interview summary to understand
15 the scope of the claimed "ring oscillator." Indeed, even if the Examiner did not rely on the
16 interview summary, the public is still entitled to rely on it. See, e.g., *Microsoft Corp. v. Multi-Tech*
17 *Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) ("We have stated on numerous occasions that a
18 patentee's statements during prosecution, whether relied on by the examiner or not, are relevant to
19 claim interpretation.") (citing cases).

20 If the patent owner disagreed with the Examiner's interview summary, it needed to say so
21 explicitly in the subsequent written amendment, to properly alert both the Examiner and the public.
22 *Hakim v. Cannon Avent Grp., PLC*, 479 F.3d 1313, 1318 (Fed. Cir. 2007) ("Although a disclaimer
23 made during prosecution can be rescinded, permitting recapture of the disclaimed scope, the
24 prosecution history must be sufficiently clear to inform the examiner that the previous disclaimer,
25 and the prior art that it was made to avoid, may need to be re-visited."). Instead of "clearly
26 informing the examiner" that the disclaimer needed to be "revisited," nine days later on
27 February 21, 2008, the patent owner submitted its own "Interview Summary" that did not dispute
28

1 *anything* in the Examiner’s interview summary and was entirely consistent with that interview
 2 summary. In particular, TPL again clearly disavowed any voltage-**controlled** oscillator disclosed
 3 by Talbot: “Talbot discusses a voltage-**controlled** oscillator (VCO) 12, but does not teach or
 4 disclose a ring oscillator.” (’148 PH 2/21/08 Remarks/Arguments at 11, (Chen Decl., Ex. 3)
 5 (emphasis added).) Thus, TPL’s summary is most appropriately interpreted as supporting its
 6 arguments recorded in the Examiner’s summary.

7 Arguing, contrary to *Microsoft*, that it somehow matters whether the Examiner relied upon
 8 what was said at the interview, TPL fails to cite key language in the June 25, 2008 Non-Final
 9 Action that tracks the interview summary, thereby indicating that the Examiner was indeed relying
 10 on the interview. The June 25, 2008 Non-Final Action states, “Further, the reference of
 11 Talbot’s 518 [sic] describes an oscillator circuit, but the specific *features* are unclear if the
 12 components actually make a ring oscillator.” (’148 PH 6/25/08 Non-Final Action at 5 (Otteson
 13 Decl., Ex. 10 at 27 of 63), *Acer* Action, Dkt. No. 357-05 (emphasis added).) The antecedent for
 14 the cited “features” is found in the Examiner’s interview summary, which says “the patent owner
 15 discussed features of a ring oscillator, such as being non-controllable, and being variable
 16 based on the environment.” (’148 PH 2/12/08 Interview Summary at 2 (Chen Decl., Ex. 2)
 17 (emphasis added).) Thus, the Examiner has clearly relied upon the patent owner’s arguments
 18 regarding the non-controllable “feature” of the claimed “ring oscillator” made during the interview
 19 and reiterated by the subsequent disclaimer of Talbot’s voltage-**controlled** oscillator in allowing
 20 the claims. Thus, TPL’s disclaimers must stand.

21 **C. TPL’s Arguments Regarding Whether a Hypothetical Circuit Different from**
 22 **Talbot Would Oscillate Is Irrelevant to What Talbot Discloses.**

23 Judge Ware ordered supplemental expert declarations that should “fully articulate the
 24 technical basis for their opinions with respect to whether the voltage-controlled oscillator
 25 disclosed in Talbot is or is not a ring oscillator.” (Order at 16:16–17.) Answering that question
 26 requires a comparison between a definition of “ring oscillator” and the disclosures of Talbot. The
 27 Supplemental Wolfe Declaration does exactly that, comparing TPL’s proposed definition of “ring
 28 oscillator” to Talbot Figure 3, and doing so in enough detail to make clear that Talbot Figure 3

discloses both three inverters arranged in a loop as well as three inversions arranged in a loop.

TPL's opening papers fail to address the issue.¹ Instead, TPL relies upon Dr. Oklobdzija's declaration that analyzes a hypothetical circuit not disclosed by Talbot. Based on the assumed behavior of this hypothetical circuit (that he admits under oath is not even Talbot),² Dr. Oklobdzija concludes that Talbot's Figure 3 is not a "ring oscillator," all without clearly defining "ring oscillator." (Oklobdzija 10/12/12 Dep. 406:11–407:14.) Dr. Oklobdzija's conclusion is without basis or merit, and should be rejected.

Strangely, TPL cites Judge Ward's claim construction of "ring oscillator" (the very construction that TPL has proposed and that reads on Talbot Figure 3) as authority for the proposition that "a ring oscillator requires three or more inverters to oscillate." (TPL Opening Brief at 11:20–26.) But it is elementary that Judge Ward's claim construction is not binding on this Court or on any of the Plaintiffs.

In any event, Judge Ward's construction of "ring oscillator" does not support TPL's position, which appears to be that if an "inversion" by itself can make a "single inversion oscillator," such "inversion" is somehow precluded from being a component of the "ring oscillator." Nowhere does Judge Ward's construction require such preclusion. Instead, presented with evidence that an oscillator could be made with a single inversion, Judge Ward merely accepted TPL's position that the *claimed* ring oscillator must nevertheless have multiple inversions, without limiting what type of inversions that could be used. (Otteson Decl., Ex. 3 at

¹ Indeed, TPL argues with Judge Ware's order: "TPL believes this approach is not an appropriate subject for claim construction. The Federal Circuit has never suggested that it is the role of the district court to evaluate the *technical merits* of the applicant's arguments in construing a claim." (TPL's Opening Brief at 10:11–13 (emphasis in original).) But this supplemental briefing is doing nothing more than determining the scope of TPL's continuing disclaimer of Talbot's voltage-controlled oscillator, so that the distinction from Talbot—as articulated by the patent owner in the prosecution history—can be properly reflected in the claim construction. This is nothing more exotic than application of prosecution history estoppel.

² As explained in Plaintiffs' opening papers (Plaintiffs' Op. Supp. Br. at 11), Dr. Oklobdzija analyzes a different, hypothetical circuit that removes everything in Talbot Figure 3 except for the Schmitt-trigger 52 and input capacitors, and adds a direct connection between the Schmitt-trigger 52's input and the output that is not present in Talbot. (Supp. Oklobdzija Decl. ¶ 15 (Chen Decl., Ex. 17), *Acer Action*, Dkt. No. 363-17; *see also* Oklobdzija 10/12/12 Dep. at 609:4-12, 610:1-10, Ex. 77, (Chen Supp. Decl., Exs. 24 and 32).)

11 (*Acer* Action, Dkt. No. 357-3).)

D. Dr. Oklobdzija’s New Definition of “Ring Oscillator” Cannot Be Adopted Because It Is Unsupported and Met by Talbot.

At deposition, Dr. Oklobdzija admitted that he did not apply any party’s proposed definition of “ring oscillator.” (Oklobdzija 10/12/12 Dep. at 406:11–407:14 (Chen Supp. Decl., Ex. 24).) Instead, he pointed to the first sentence of paragraph 7 in his declaration as his definition of “ring oscillator.” (*Id.* at 406:24–407:2.) That sentence reads, “Ring oscillators are **able** to provide a continuous periodic output **because** they have an odd number of inverting components arranged in a loop or ‘ring.’” (Supp. Oklobdzija Decl. at ¶ 7 (Chen Decl., Ex. 17) (emphasis added).) That “definition” is different from TPL’s proposed structural definition, adding the functional limitation that ring oscillators are “**able** to provide a continuous periodic output **because** they have an odd number of ‘inverting components.’” TPL’s proposed functional limitation is not in the intrinsic record and so cannot be properly read into the claim construction of “ring oscillator.” Indeed, TPL offers no authoritative treatise or paper setting forth or applying such a definition for “ring oscillator,” just the unsupported opinion of Dr. Oklobdzija. Such unsupported testimony is not entitled to any weight. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1318 (Fed. Cir. 2005) (“[C]onclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court.”)

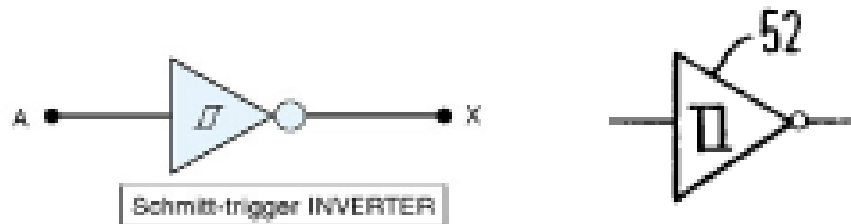
But beyond that, Talbot Figure 3 meets Dr. Oklobdzija’s new proposed functional limitation. Talbot explains how Figure 3 works, and that explanation makes clear that the voltage-controlled oscillator in Figure 3 provides a continuous periodic output because it has an odd number (3) of inverting components arranged in a loop that perpetually change the input into the next inverting component. (Talbot at 7:56–8:21 (Chen Decl., Ex. 9) (concluding, “Thus, an oscillating output signal will be provided at the output 56 of the voltage controlled oscillator circuit and the oscillation will be sustained.”).) Dr. Wolfe’s declaration explains the same thing. (Supp. Wolfe Decl. at ¶¶ 9, 11, 15 and 23 (Chen Decl., Ex. 8).)

Because Dr. Oklobdzija’s new definition of “ring oscillator” is unsupported and in any event met by the disclaimed voltage-controlled oscillator in Talbot, it cannot be adopted.

E. Talbot's Schmitt Trigger 52 Is an Inverter and Perpetuates the Oscillation in the Same Way as a Standard Inverter.

TPL argues that a Schmitt trigger is structurally and operationally different from an “inverter.” To the contrary, Dr. Wolfe explains that Schmitt trigger 52 of Talbot Figure 3 is an “inverter.” (*Id.* at ¶¶ 13–24.) Dr. Wolfe specifically explains, “The Schmitt trigger 52’s inverting function is used to sustain the oscillation of the Talbot [voltage-controlled oscillator] in the same way that the inverters disclosed in the ’336 patent sustain oscillation in the ‘ring oscillator.’” (*Id.* at ¶ 23.)

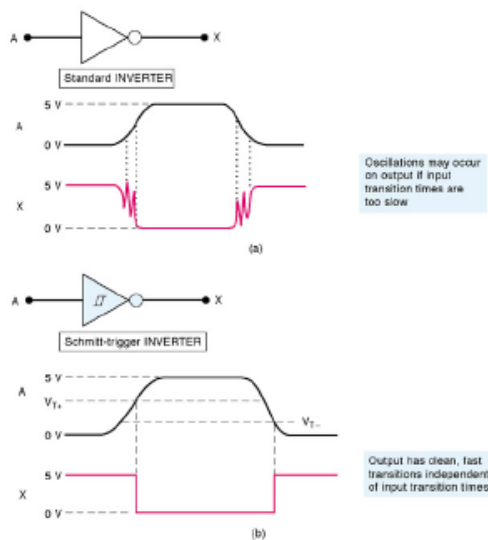
Dr. Wolfe’s testimony is supported by multiple independent sources (attached as exhibits to his declaration), as well as Exhibit A to Dr. Oklobdzija’s Supplemental Declaration (Chen Decl., Ex. 17), which captions the very symbol used to represent Talbot Figure 3’s Schmitt trigger 52 as a “Schmitt trigger inverter.” Curiously, TPL failed to include with its opening papers Exhibit A of the Supplemental Oklobdzija declaration, which clearly shows a “Schmitt trigger inverter.” Plaintiffs have provided it as part of Exhibit 17 to the Chen Declaration, and the relevant portion of the figure is reproduced below, together with symbol 52 from Talbot Figure 3:



(Supp. Oklobdzija Decl., Ex. A, slide 3 (Chen Decl., Ex. 17, at 14 of 50); Talbot, Figure 3 (Chen Decl., Ex. 9).) Dr. Oklobdzija admitted the above symbol is the same as that found in Talbot Figure 3. (Oklobdzija 10/12/12 Dep. at 445:6–446:2 (Chen Supp. Decl., Ex. 24).)

In its opening papers, TPL argues that the hysteresis on the input of the Schmitt trigger somehow disqualifies a Schmitt trigger inverter as a component of the claimed “ring oscillator.” But hysteresis is irrelevant to how the inverting function of the Schmitt trigger 52 sustains the oscillation. (Supp. Wolfe Decl. ¶ 15 (Chen Decl., Ex. 8).) The hysteresis just protects the output from instability caused by noise on the input. (*Id.* at ¶ 16.) This point is actually illustrated by Dr. Oklobdzija’s Exhibit A, as shown below:

Schmitt-Trigger Inverter



(a) If input transition times are too long, a standard logic device-output might oscillate or change erratically; (b) a logic device with a Schmitt-trigger type of input will produce clean, fast output transitions.

(Supp. Oklobdzija Decl., Ex. A, slide 3 (Chen Decl., Ex. 17, at 14 of 50).)

The hysteresis does *not* prevent a Schmitt trigger inverter from being an inverter. As shown by Exhibit A to Dr. Oklobdzija's declaration, a Schmitt trigger inverter functions better than a standard one by providing "clean, fast output transitions" that improve upon the standard inverter's output that "might oscillate or change erratically." (*Id.*) Thus, the Schmitt trigger inverter 52 in Talbot Figure 3 is an inverter.

F. Dr. Oklobdzija's Deposition Arguments that Talbot Lacks Three Inversions/Inverters Arranged in a Loop Are Groundless and Lack Credibility.

Although his supplemental declaration does not deny that Talbot Figure 3 discloses three inverters in a loop, at deposition Dr. Oklobdzija for the first time asserted that Talbot Figure 3 does not disclose three inverters in a loop. But this deposition testimony contradicts his own textbook (which says that transistor pair 48 and 49 is an inverter) and Exhibit A to his own declaration (which captions the symbol 52 of Talbot Figure 3 as a "Schmitt-trigger inverter").

As to the Schmitt-trigger 52, Exhibit A to Dr. Oklobdzija's declaration is explained above.

1 Dr. Oklobdzija conceded at deposition that the symbol used in Talbot Figure 3 is an inverting type
 2 of Schmitt-trigger, but asserted it was not properly considered to be an “inverter.” (Oklobdzija
 3 10/12/12 Dep. at 443:17–444:19 (Chen Supp. Decl., Ex. 24).) This testimony is directly
 4 contradicted by Dr. Oklobdzija's testimony describing the operation of circuit 52: “Yes. I -- I
 5 agree, if you put a square wave at the input of 52, the output is going to be a square wave in the
 6 180-degree opposite phase.” (*Id.* at 572:9–11.) Dr. Oklobdzija also admitted that, when the
 7 Schmitt trigger 52 has a high input, its output would be low, and when it has a low input, its
 8 output would be high. (*Id.* at 571:3–18.) These functions—a high input resulting in a low output,
 9 and vice-versa, and a 180 degree phase shift from input to output—are exactly what an inverter
 10 does, and what it is designed to do. The fact that an inverter might have a Schmitt trigger input
 11 does not change its function at all. Similarly, the label “Schmitt trigger” is unimportant. The
 12 circuit performs an inversion, so it is an inverter. This testimony is also contradicted by Exhibit A
 13 to Dr. Oklobdzija’s own declaration, which repeatedly calls the same symbol numbered 52 in
 14 Talbot Figure 3 a “Schmitt-trigger inverter.” (Supp. Oklobdzija Decl., Ex. A, slide 3 (Chen Decl.,
 15 Ex. 17 at 14, 15, and 19).)

16 As to transistor pair 48 and 49, Dr. Oklobdzija admitted that the transistor pair taken alone
 17 has the same structure as a textbook “inverter” cited by Dr. Wolfe (Oklobdzija 10/12/12 Dep. at
 18 511:4–512:5; 515:16–517:2 (Chen Supp. Decl., Ex. 24)), and even further admitted that—given
 19 time at least—the input to transistor pair 48 and 49 has the opposite phase as the output. (*Id.* at
 20 460:4–24.) Dr. Oklobdzija’s own textbook identifies such a transistor pair as an “inverter.”
 21 (Supp. Wolfe Decl. at ¶ 12, at p. 6 and Ex. L (Chen Decl., Exs. 8 and 10).) Dr. Oklobdzija even
 22 testified that one of ordinary skill in the art would interpret the symbol for “inverter 51” to
 23 represent such a transistor pair. (Oklobdzija 10/12/12 Dep. at 511:4–512:5 (Chen Supp. Decl.,
 24 Ex. 24).)

25 Unavoidably, to distinguish Talbot over a “ring oscillator,” Dr. Oklobdzija actually points
 26 to the **control** circuitry of the voltage controlled oscillator in Talbot Figure 3. Talbot identifies
 27 “input 43” as receiving the “**control** voltage.” (Talbot, 7:31 (Chen Decl., Ex. 9).) According to
 28

Dr. Oklobdzija, the frequency of oscillation of Talbot Figure 3 “really depends on the value of the **capacitors 50 and 54** and the resistance of a transistors [sic] as we spoke about, 45 and 44, which is being **controlled by the input 43**, which determines the rate of **how fast those capacitors are going to be charged or discharged**. This is what determines the principal frequency of a Talbot oscillator.” (Oklobdzija 10/12/12 Dep. at 450:9–17 (Chen Supp. Decl., Ex. 24 (emphasis added).) According to Dr. Oklobdzija, transistor pair 48 and 49 is not an “inverter” because they act as “current **control** switches” (*id.* at 461:4–9 (emphasis added)) for the current that is used to charge and discharge the capacitors, (*id.* at 460:16–18). By arguing that transistor pair 48 and 49 is somehow not an inverter because they are “current **control** switches” and that the frequency is determined in part by the time to charge or discharge the capacitors on the input to Schmitt-trigger inverter 52, Dr. Oklobdzija is distinguishing Talbot based on its controllability. (*See also*, *e.g.*, *id.* at 488:13–23; 490:13–491:4; 638:20–639:1; 644:12–16; 647:25–648:6.) But the current **control** function performed by the transistor pair 48 and 49 does not alter its inversion function, so one of ordinary skill in the art would still consider the transistor pair to be an inverter. (*See* Wolfe Dep. at 91:12–92:13 (Chen Supp. Decl., Ex. 25).) For example, U.S. Patent No. 4,105,950 (hereinafter “Dingwall”) discloses an identical control circuit as that in Talbot Figure 3 on top of a transistor pair (referred to in Dingwall as an “inverter”), also identical to Talbot’s transistor pair 48 and 49. (*See id.* at 93:10–19 and Exs. 107, 109 (Chen Supp. Decl., Exs. 33, 34.); *see also* Dingwall at 1:45–46 (“Cascaded inverters I1, I2, and I3, with the output of I3 fed back to the input of I1, form a ring oscillator.”)) Thus, one of ordinary skill in the art would recognize the transistor pair 48 and 49 in Talbot Figure as an inverter.

The public is entitled to consistency in the interpretation of the claimed ring oscillator. Having told the Patent Office that Talbot does not disclose a ring oscillator, the “ring oscillator” claim term must be limited to avoid reading on Talbot. The only substantive limitation in the intrinsic evidence on “ring oscillator” is the statement found in the Examiner’s interview summary that the claimed ring oscillator is non-controllable and variable based on the environment. Accordingly, Plaintiffs’ construction should be adopted.

G. Plaintiffs’ Construction Should Be Adopted To Avoid Recapture of Abandoned Subject Matter.

Having indisputably disclaimed the voltage-controlled oscillator as part of the Phase-Locked Loop (“PLL”) in Talbot Figure 3, TPL has now alleged that the claimed “ring oscillator” limitation is satisfied by a voltage- or current-controlled oscillator in a phase-locked loop—the precise structure it told the Patent Office is not covered by its claims. For example, in its infringement contentions, TPL has made the following allegation as the basis for satisfying the “ring oscillator” limitation:

The presence of a PLL indicates the presence of a ring oscillator, either a voltage controlled oscillator (‘VCO’) or current controlled oscillator (‘ICO’).
[Underlying supplied.]

As TPL’s contentions suggests, a voltage “controlled” oscillator or a current “controlled” oscillator is an oscillator that is “controlled.” TPL’s own expert acknowledged as much when he admitted that a voltage controlled oscillator “could be controlled by **voltage** or **current**.” (*See* Oklobdzija 12/22/2010 Dep. at 354:14–19 (Chen Supp. Decl., Ex. 26) (emphasis added).)

To avoid the improper recapture of the abandoned subject matter and for all of the reasons stated above and in Plaintiffs’ opening papers, Plaintiffs’ construction requiring the “ring oscillator” to be “non-controllable” must be adopted.

III. OPERANDS THAT ARE PRESENT IN THE CLAIMED “INSTRUCTION REGISTER” MUST BE RIGHT JUSTIFIED.

A. An “Instruction Register” Has Always Been a Claim Limitation.

The key dispute regarding the term “instruction register” is whether statements in the prosecution history, which echo the clear and unequivocal statements in the specification, support a construction in which any operands present in the instruction register are right justified. During prosecution of the ’749 patent, the examiner hand-wrote the following sentence in a summary of an October 25, 1994 interview: “Claim 1: Operand width is variable & right adjusted.” TPL attempts to dismiss this statement by asserting that “whatever discussion the examiner might have had with the applicant in 1994 regarding operands is irrelevant to the construction of the term ‘instruction register.’” TPL reasons that the term did not become “part of claim 1 until more than

1 sixteen years later,” when claim 1 was amended during the ’749 reexamination to expressly recite
 2 “an instruction register.” (TPL Op. Supp. Br. at 6.) But TPL is wrong because, as explained
 3 below, claim 1 has always required an instruction register.

4 Claim 1 recites a microprocessor system that includes, among other components, a “means
 5 for fetching instructions” for the CPU. The “means for fetching” has always been recited in claim
 6 1, and it is undisputed that the corresponding structure for this term under 35 U.S.C. § 112, ¶ 6
 7 includes the instruction register 108 described in the specification. During the ’749
 8 reexamination, in fact, TPL specifically told the Patent Office that the corresponding structure of
 9 the “means for fetching instructions” in claim 1 includes the “instruction register.” (’749 PH
 10 1/25/2011 Amendment After Final at 18 (Chen Supp. Decl., Ex. 27) (“The patent owners have
 11 consistently contended that a proper construction of the corresponding language of claims 1 and 9
 12 is what is now expressly recited in proposed claims 62 and 63 (with the understanding that **the**
 13 **“instruction register” is among the “corresponding structure” with respect to the means for**
 14 **fetching instructions**”).) (emphasis added).) TPL’s proposed construction for the “means for
 15 fetching” also includes instruction register 108. (See Joint Claim Construction Statement, Ex. B
 16 at 1–2 (*Acer* action, Dkt. No. 305-2).) While it is true that claim 1 was substantively narrowed in
 17 other ways during the ’749 reexamination, there is no basis for TPL to argue that an “instruction
 18 register” was not a part of claim 1 until it was amended during reexamination.

19 **B. Operands in the Instruction Register of the ’749 Patent, if Present, Must Be**
 20 **Right Justified.**

21 The ’749 specification describes the requirement of right-justification using the type of
 22 unequivocal and absolute language that is rarely found in patent specifications. (’749, 18:34–56.)
 23 The specification describes the ability to handle variable width operands using the same opcode
 24 as “magic” and proclaims that “[t]his magic is possible because **operands must be right justified**
 25 **in the instruction register**. This means that the least significant bit of the operand is **always**
 26 located in the least significant bit of the instruction register.” (’749, 18:43–47 (emphasis added).)
 27 Right justifying operands in the instruction register is not simply an optional design choice but a
 28 characteristic that “must be” present, to accomplish the “magic” of the alleged invention.

1 Plaintiffs' opening brief was accompanied by a detailed declaration from Dr. May
 2 describing the instruction register in the '749 patent and explaining in detail its disclosure of
 3 variable-width instructions with right-justified operands. Dr. May's testimony stands unrebutted,
 4 and TPL does not seriously challenge any aspect of his technical description testimony. Nor did it
 5 submit anything from its own expert regarding this term.

6 TPL nonetheless argues that right-justified operands should not be read as a requirement
 7 of the claimed instruction register because instructions in the '749 patent can include "simple 8-
 8 bit, fixed-width instructions," and as such, "[n]othing in this embodiment requires operands or
 9 operands in the instruction register that are right-justified." (TPL Op. Supp. Br. at 4:21:5–1.) The 8-
 10 bit (one byte) instructions to which TPL is referring, however, have no operands whatsoever.

11 As Dr. May explained in his declaration, an instruction in the '749 patent "may consist simply
 12 of an opcode represented in 8 bits (one byte)." (May Decl. ¶ 7 (Chen Decl., Ex. 18).) A one-byte
 13 instruction with only an opcode, however, will necessarily have no operands. (*Id.* at ¶ 7
 14 (explaining one-byte instructions having no operands).) This possibility is in no way excluded or
 15 impacted by Plaintiffs' proposed construction: "register that receives and holds one or more
 16 instructions for supplying to circuits that interpret the instructions, in which any operands that are
 17 present must be right-justified in the register." In the case of single-byte instructions, because no
 18 operands are present, the right justified requirement would not apply.

19 **C. Plaintiffs' Proposed Construction Would Not Vitate Claim 7.**

20 TPL also argues that Plaintiffs' proposed construction of "instruction register" would
 21 render claim 7 superfluous. TPL did not reproduce dependent claim 7 in its brief, and for good
 22 reason—the claim is so lengthy and includes numerous limitations not at all encompassed by
 23 Plaintiffs' proposed construction. Claim 7, following the reexamination, recites:

24 7. The microprocessor system of claim 1 wherein said instruction register for
 25 the multiple instructions and a variable width operand to be used with one of
 26 the multiple instructions is connected to

27 said means for fetching instructions, means connected to said instruction
 28 register for supplying the multiple instructions in succession from said
 instruction register, a counter connected to control said means for

supplying the multiple instructions to supply the multiple instructions in succession, means for decoding the multiple instructions connected to receive the multiple instructions in succession from the means for supplying the multiple instructions, said counter being connected to said means for decoding to receive incrementing and reset control signals from said means for decoding, said means for decoding being configured to control said counter in response to an instruction utilizing the variable width operand stored in said instruction register, and means connected to said counter to select the variable width operand for use with the instruction utilizing the variable width operand in response to said counter.

(’749 patent, *Ex Parte* Reexamination Certificate, Claim 7 (Chen Decl., Ex. 22) (text removed during reexamination omitted).)

TPL acknowledges that “[t]he doctrine of claim differentiation is at its strongest when the additional limitations proposed to be added to a parent claim appear in a dependent claim.” (TPL Op. Supp. Br. at 5:6–7.) TPL cannot seriously claim that the requirement in Plaintiffs’ proposed construction that “any operands that are present must be right-justified in the [instruction] register” would render superfluous or otherwise vitiate the detailed limitations of claim 7. Claim 7 recites at least the following additional limitations and structures not in claim 1:

- means connected to said instruction register for supplying the multiple instructions in succession from said instruction register;
- a counter connected to control said means for supplying the multiple instructions to supply the multiple instructions in succession;
- means for decoding the multiple instructions connected to receive the multiple instructions in succession from the means for supplying the multiple instructions.

These additional structures, which all clearly differentiate claim 7 from claim 1, are not vitiated by Plaintiffs’ proposed construction by merely requiring that any operands that are present be right-justified in the instruction register.

D. The “Operand Width Is Variable and Right-Adjusted” Comment in Interview Summary Refers to Issued Claim 1 of ’749 Patent.

TPL speculates that the Examiner’s hand-written note in the interview summary, “Claim 1: Operand width is variable & right adjusted,” was a mistake because the original claim 1 was withdrawn at that time. TPL asserts that the Examiner was likely referring to claim 11 (issued

1 claim 7) by the “Claim 1” reference. But TPL’s theory is unsupported. The prosecution record
2 actually reveals that the reference to “Claim 1” was directed at application claim 3 at that time,
3 which issued as claim 1 of the ’749 patent.

4 By the time the interview took place, claim 1 had been withdrawn and claim 2 was
5 cancelled. (’749 PH 12/31/92 Office Action at 1 (Chen Supp. Decl., Ex. 28).) Claim 3 was
6 therefore the first active claim under reexamination at the time of the interview. Claim 3 was also
7 renumbered and issued as claim 1. (’749 PH 7/6/93 Amendment at 2 (Chen Supp. Decl., Ex. 29);
8 ’749 PH Amendment of 11/9/94 at 1 (Chen Supp. Decl., Ex. 30).)

9 TPL’s speculation that the Examiner was referring to claim 11 is refuted by both parties’
10 accounts of the interview summary. The Examiner made no reference to claim 11 as being
11 discussed during the interview. Instead, in the “Claims discussed:” section of the Interview
12 Summary, the Examiner referred only to claims 3, 26, and 27. (’749 PH 10/25/94 Interview
13 Summary (Chen Supp. Decl., Ex. 31).) And the applicants, in their summary of the interview,
14 made no reference to claim 11 as having been discussed during the interview. The applicants
15 instead referred to claim 3. (’749 PH Amendment of 11/9/94 at 4–5 (Chen Supp. Decl., Ex. 30).)
16 Based on the prosecution history record, it is apparent that the Examiner’s comments were
17 directed at application claim 3, which issued as claim 1.

18 **IV. CONCLUSION**

19 For the foregoing reasons, Plaintiffs’ constructions should be adopted in their entirety.

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1 Dated: November 9, 2012

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10 **ATTESTATION PER GENERAL ORDER 45**

11 I, Kyle Chen, am the ECF User whose ID and password are being used to file Plaintiffs'
12 Consolidated Responsive Claim Construction Brief. In compliance with General Order 45, X.B., I
13 hereby attest that the counsel listed above have concurred with this filing.

14 Dated: November 9, 2012

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